



# deep space network

## Preliminary Assessment of SOHO HSO Schedule (March – May 2006)



Prepared By:  
J. Retana  
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## *Resource Allocation Planning Service (RAPS)*

Jet Propulsion Laboratory  
California Institute of Technology

- Background
  - RAPS was tasked to evaluate SOHO Helioseismology Observations (HSO) period March – May 2006
    - To evaluate this period, schedules were built to assess the Goldstone coverage. These schedules have not been negotiated.
  - Week 12 (HSO starts on Thu, DOY 082) March 20 – 26 of 2006
  - Week 13 (First full week of HSO) March 27 – April 2 of 2006
  - Week 15 (STEREO A & B Launch Week) April 10 – 16 of 2006
- Assumptions
  - DSS – 16 unavailable after January 30 at 1600 UTC time
  - DSS – 46 will remain operational throughout this period
  - DSS – 66 will remain operational throughout this period
  - DSS – 27 upgraded

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- Schedule Build Methodology
  - Used Full Mission Set Requirements With Details Provided by Missions
  - ACE and WIND at DSS-24 except for DSS-24 and DSS-27 maintenance days.
    - On DSS-24 and DSS-27 maintenance days ACE and WIND would move to DSS-34 or DSS-54.
  - SOHO would use full view at DSS-27.
    - On DSS-27 maintenance day use DSS-24.
- Findings
  - On maintenance days at DSS-24 and DSS-27. DSS-16 could help relieve minor contention if all alternatives have been exhausted between the hours of 8am – 4pm Pacific Time.
  - INTG has a slight view period overlap at Goldstone with SOHO but it is not significant in these weeks.
  - There will be a problem at Canberra for SOHO with ACE, CHDR, IMAG, POLR, and ST5 in these weeks.
  - In Week 15 STEREO A & B there is no impact to SOHO.

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- Summary of all SOHO HSO Conflicts beginning Week 12 DOY 082, Week 13, and 15 of 2006:
  - DSS-24 1 pass
    - INTG 1 pass, POLR 1 pass
  - DSS-27 1 pass
    - CLU 1 pass
  - DSS-34 2 passes
    - IMAG 1 pass, POLR 2 passes, ST5 2 passes
  - DSS-46 11 passes
    - ACE 1 pass, CLU 2 passes, GTL 3 passes, POLR 11 passes
  - DSS-54 2 passes
    - M01O 2 passes
  - DSS-66 2 passes
    - CLU 1 pass and POLR 1 pass



# Preview Week 12

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### Preview Week 13

- Week 13 No Impact to SOHO at Goldstone





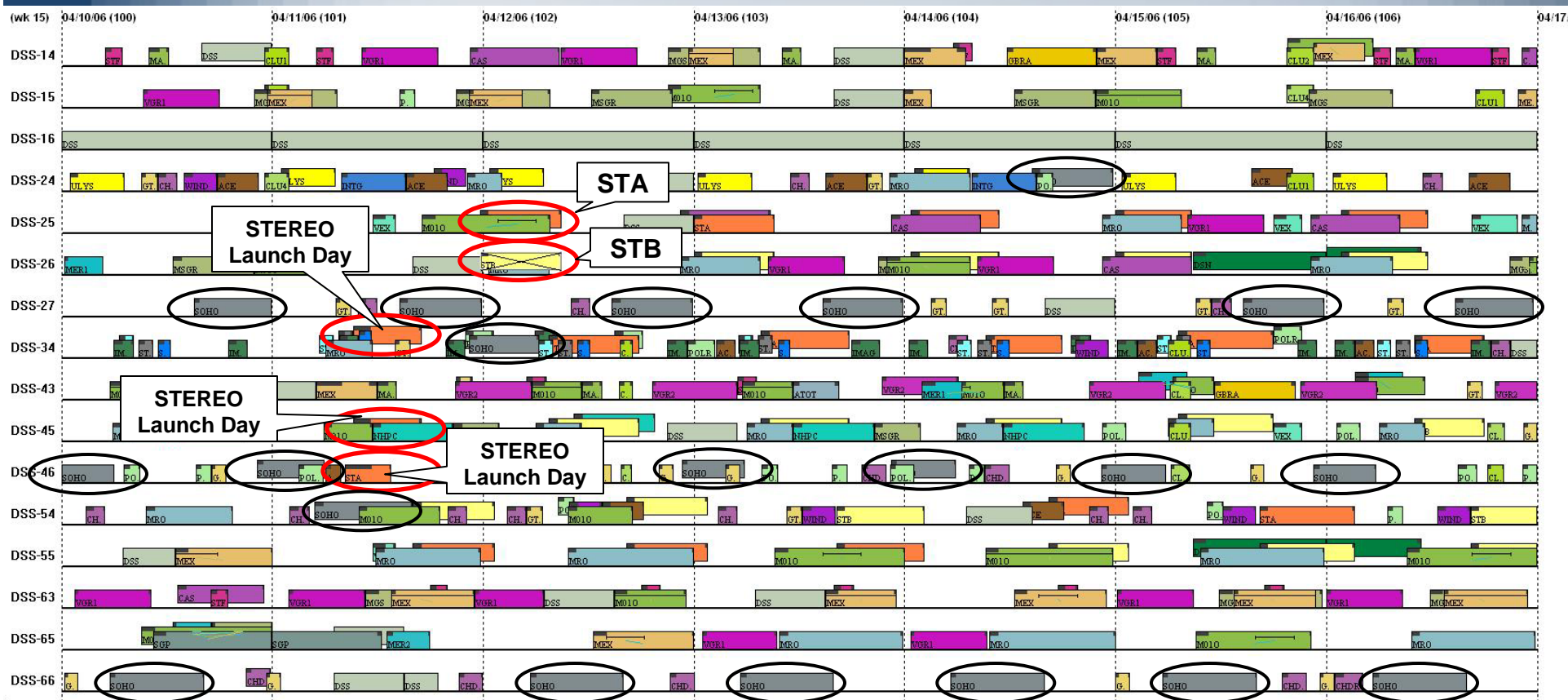
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### Preview Week 15

- Week 15 STEREO Launch Week minor impact to SOHO at Goldstone

STA is in orange and STB is in light Yellow in Red circles





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- Conclusion
  - SOHO can expect to receive acceptable coverage at Goldstone in these weeks, any contention will be handled during the Mid-Range negotiation process.
    - Weeks that were presented will be negotiated in September and October of 2005
  - There are six additional weeks of SOHO HSO that are yet to be created.
    - Suspect similar results.
    - Potential hits may occur with STEREO periapsis maneuvers.
  - The bulk of the problem is at Canberra and Madrid in these weeks.